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NO. LTC# 198-2014

LETTER TO COMMISSION

TO: Mayor Philip Levine and Members of the City Commission

FROM: Jimmy L. Morales, City Manager

DATE: June 10, 2014

SUBJECT: Citywide Dune Restoration and Enhancement Project Status Update

The purpose of this LTC is to update the Mayor and City Commission on the status of the Citywide Dune Restoration and Enhancement Project. The goal of this project is to restore the health and structural integrity of the dune system while incorporating the Crime Prevention Through Environmental Design (CPTED) design guidelines into vegetation management. The healthier dune system will provide better habitat for native plants and animals, be more structurally sound, and offer the City improved storm surge protection and erosion control. All work for this project has been coordinated with and permitted by the Florida Department of Environmental Protection.

From February through May, two landscape contractors, retained through the Invitation to Bid (ITB) process, removed non-native vegetation from the four project areas. Attachment 1 shows the locations where this work was conducted in South Beach (Government Cut to 3 Street and 14 Street to 23 Street), Middle Beach (23 Street to 47 Street), and North Beach (64 Street to 79 Street). Beginning in June, the contractors will begin to replant the cleared areas with native species that will maximize the dune's ability to protect upland properties from storm surge and provide critical erosion control to the beach. Areas not addressed by this project will be restored in the future during the construction of the adjacent beachwalk or as part of volunteer dune restoration efforts.

The week of June 23, the City's in-house tree crew will begin selectively pruning native dune vegetation throughout the City, including that in North Shore Open Space Park, under the supervision of an International Society of Arboriculture-certified arborist. The vegetation will be pruned between 24 and 36 inches in height to provide greater vegetation stability and reduce security concerns from continued homeless and illicit activities within the park. In the past few weeks, the Administration has received several inquiries regarding this sea grape pruning strategy from City residents. Mr. Robert Barron, a dune ecologist with Coastal Management and Consulting, has been retained to provide professional guidance during the Citywide Dune Restoration Project. He has responded to these inquiries in a letter that outlines the pruning methodology and the reason it was selected for the City's dune system (Attachment 2).

Upon completion of this work, City staff will conduct an interdepartmental review of the restored area to identify any remaining areas of concern and to confirm the resulting conditions meet the dune management and CPTED goals. Additionally, the City Administration is recommending

that the dunes be placed under a maintenance contract, in which a landscape contractor will maintain the entire system 30 times per year.

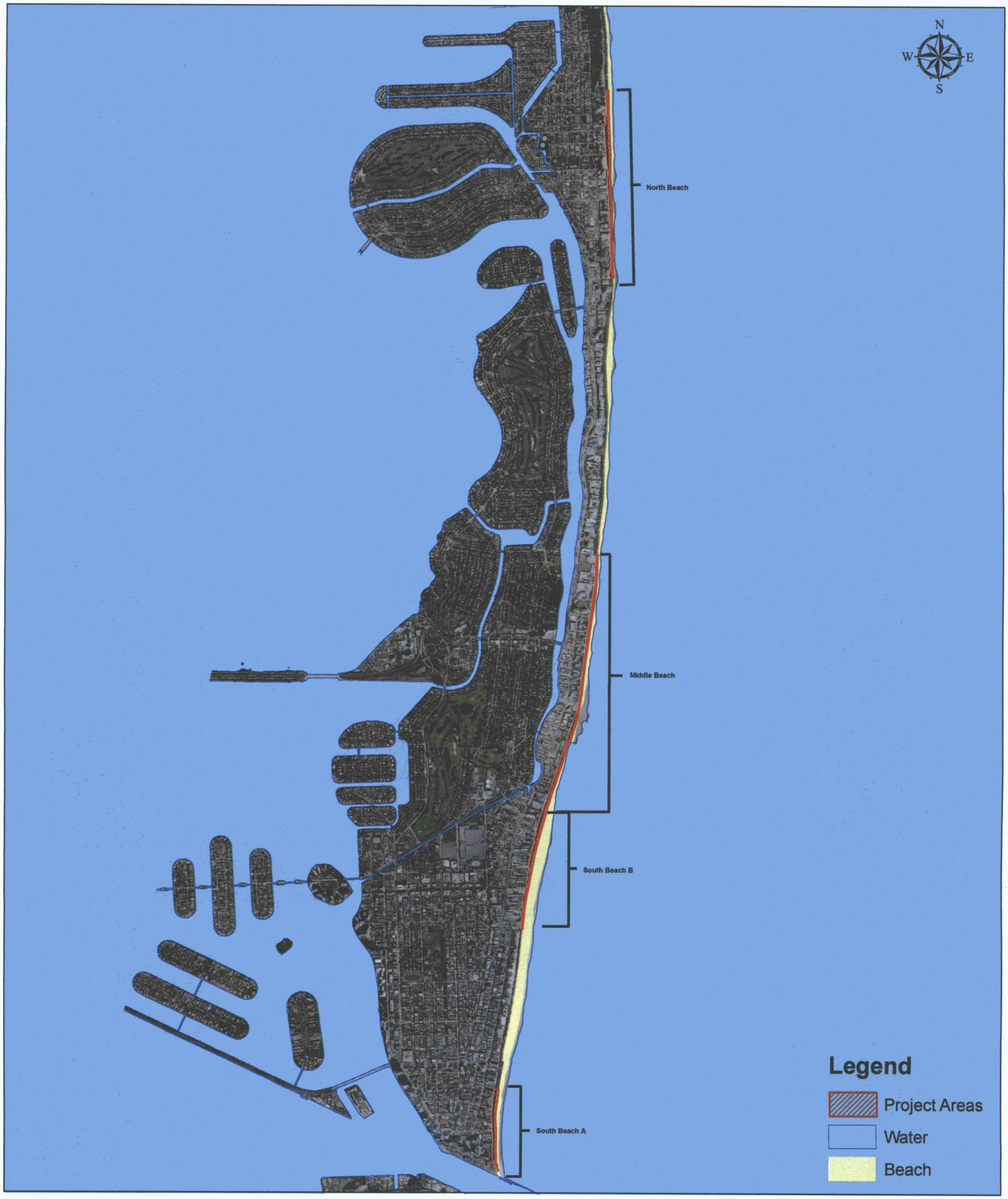
If you need additional information, please do not hesitate to contact me.

JMJ/MT/ETC/JJF/ESW/MKW

Attachments: 1 – Citywide Dune Restoration Project Map
2 – Letter from Robert Barron, Coastal Management and Consulting

Attachment 1

City of Miami Beach: Citywide Dune Restoration Services Project



Attachment 2

ROBERT H. BARRON
Coastal Management and Consulting
Coastal Growers Inc.
7611 Lawrence Rd., Boynton Beach, Fl. 33436
561-649-8318, cell 441-1446

April 2, 2014

Elizabeth Wheaton
Environmental Resources Manager
City of Miami Beach
1700 Convention Center Drive, 4th Floor
Miami Beach, Florida 33139

Ms. Wheaton,

I am a coastal dune biologist with nearly 40 years of experience working on Florida's beaches. I have designed and carried out more than 1,400 dune restoration projects ranging from post-storm stabilization projects to large-scale habitat restorations. The City of Miami Beach retained me, in May of 2013, to assist staff in developing a management strategy for its coastal dune system that enhances storm protection and erosion control functions, while meeting the biological, aesthetic, and safety issues of concern to Miami Beach residents.

Over the past ten months, I have worked closely with staff to develop a dune management program that is based on the best available science, as well as my professional experience working on public and private dune restoration projects. One component of this is reducing select sea grape and other coastal trees to a height that is between 24 inches and 30 inches and maintaining these at a long-term height between 36 inches and 42 inches. This approach is also known as remedial crown reduction pruning, or coppicing.

Remedial sea grape pruning strengthens the stability of the dune system overtime because it modifies the trees to low and dense growth, which makes them more stable and more likely to endure a major windstorm without uprooting or toppling. Additionally, the prescribed new height eliminates hiding areas and improves visibility over the dunescape, consistent with Crime Prevention Through Environmental Design guidelines. We apply these pruning methods year-round, in South Florida, because the climate is warm throughout the year and the local sea grapes do not experience a dormant season.

This sea grape pruning methodology has been extensively vetted with the Florida Department of Environmental Protection (FDEP) over the past ten years, and that agency has issued matching grants to projects that have applied this pruning strategy, including a project in the City of Delray Beach that reduced 25-foot sea grapes trees to ankle height. Although the Delray Beach project was initially unpopular with a few, it was welcomed by the vast majority of citizens, and was recently described at the National Conference on Beach Preservation Technology as the "model

for future dune management programs". Delray Beach and its residents are very happy with the long-term results, specifically aesthetically-pleasing dunes with reduced security concerns and improved resistance to storms, as tested by Hurricane Wilma.

Attachment A shows existing conditions in the Delray Beach dunes. Short term, the recently-pruned sea grapes in Miami Beach will put out new shoots during the coming months and will show substantial growth before the start of the 2014 hurricane season. Long term, Miami Beach can expect dune areas where the sea grapes are maintained as more stable low scrub to look similar to the section of Delray Beach dune shown in the photograph.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Robert H. Barron
Coastal Management and Consulting

Attachments: A – Photograph of Delray Beach Dune

Attachment A